

Amendments to the Claims:

1. (Currently Amended) A sensing assembly ~~characterized by~~ comprising a set of turns (2) of an electrical winding coil and an interaction element (3) adjustable by a user, the set of turns (2) and the interaction element (3) being movable in relation to each other, the set of turns (2) being subjected to a sampling voltage ( $V_p$ ) and having a resistance ( $R_s$ ),

the sensing assembly being suitable for ~~the use of~~ measurement of a temperature of an environment ( $T_s$ ) and to define ~~the~~ a temperature set point of a cooling system,

the measurement of the temperature of the environment ( $T_s$ ) being obtained from the alteration of the resistance ( $R_s$ ) of the set of turns (2); and the definition of the temperature set point of the cooling system being obtained from the inductance ( $L_s$ ) of the set of turns (2), by displacing the interaction element (3) with respect to the set of turns (2).

2. (Currently Amended) A sensing assembly according to claim 1, characterized in that the set of turns (2) is made from a material the resistivity of which varies with the temperature.

3. (Currently Amended) A sensing assembly according to claim 1, characterized in that the interaction element (3) is a ferromagnetic material of high magnetic permeability.

4. (Currently Amended) A sensing assembly according to claim 1, characterized in that the interaction element (3) is an electrically conductive material.

5. (Currently Amended) A sensing assembly according to claim 1, characterized by comprising an adjustment axle (5).

6. (Currently Amended) A sensing assembly according to claim 5, characterized in that the adjustment axle (5) penetrates the inside of the ~~ferromagnetic~~ interaction element (3) axially.

7. (Currently Amended) A sensing assembly according to claim 6, characterized in that the adjustment axle (5) is threaded.

8. (Currently Amended) A sensing assembly according to claim 7, characterized in that the adjustment axle (5) is operatively connected to a handle (4).

9. (Currently Amended) A sensing assembly according to claim 8, characterized in that the handle (4) ~~is preferably~~ comprises a knob.

10. (Currently Amended) A sensing assembly according to claim 9, characterized in that the interaction element (3) is provided with a through-bored and threaded material.

11. (Currently Amended) A sensing assembly according to claim 10, characterized in that the set of turns (2) is mounted around an adjusting and guiding device (2a).

12. (Currently Amended) A sensing assembly according to claim 11, characterized in that the adjusting and guiding device (2a) is defined by a cylinder (2b) and bored-through limiting ends (2c).

13. (Currently Amended) A sensing assembly according to claim 12, characterized in that the interaction element (3) penetrates the inside of the adjusting and guiding element (2a) axially.

14. (Currently Amended) A system for adjusting a temperature set point ~~adjusting and for measuring~~ a temperature of an environment (Ts) ~~measuring system~~ for a cooling system, the ~~adjusting and measuring system~~ comprising:

~~\_\_\_\_\_~~ a sensing assembly (1);

- a processing unit (20);

~~the system (10) being characterized in that the~~ a sensing assembly (1) comprises connected to the processing unit and comprising a set of turns (2), and an interaction element (3) adjustable by a user, the set of turns (2) and the interaction element (3) being movable in relation to each other, the set of turns (2) being subjected to a sampling voltage ( $V_p$ ) and having a resistance ( $R_s$ );

the ~~system (10)~~ processing unit measuring the temperature of the environment (Ts) from the alteration of the resistance ( $R_s$ ) of the set of turns ~~(2)~~; and

the processing unit defining the temperature set point of the cooling system from the inductance (Ls) of the set of turns ~~(2)~~, obtained by displacing the interaction element ~~(3)~~ with respect to the set of turns ~~(2)~~.

15. (Currently Amended) A system according to claim 14, characterized in that the set of turns ~~(2)~~ is made from a material the resistivity of which varies with the temperature.

16. (Currently Amended) A system according to claim 14, characterized in that the interaction element ~~(3)~~ is a ferromagnetic material of high magnetic permeability.

17. (Currently Amended) A system according to claim 14, characterized in that the interaction element ~~(3)~~ is an electrically conductive material.

18. (Currently Amended) A system according to claim 16 ~~or 17~~, characterized in that the interaction element ~~(3)~~ displaces with respect to the inside of the set of turns ~~(2)~~.

19. (Currently Amended) A system according to claim 18, characterized in that the sensing assembly ~~(1)~~ comprises an adjustment axle ~~(5)~~.

20. (Currently Amended) A system according to claim 19, characterized in that the adjustment axle ~~(5)~~ penetrates the inside of the interaction element ~~(3)~~ axially.

21. (Currently Amended) A system according to claim 20, characterized in that the adjustment system ~~(5)~~ has its a surface that is threaded.

22. (Currently Amended) A system according to claim 21, characterized in that the adjustment axle ~~(5)~~ is operatively connected to a handle ~~(4)~~.

23. (Currently Amended) A system according to claim 22, characterized in that the handle (4) is a knob.

24. (Currently Amended) A system according to claim 16, characterized in that the interaction element (3) is provided with through-bored and internally threaded material.

25. (Currently Amended) A system according to claim 14, characterized in that the set of turns (2) is mounted around a guiding and adjusting device (2a).

26. (Currently Amended) A system according to claim 25, characterized in that the guiding and adjusting device (2a) comprises a cylindrical body (2b) provided with limiting borders (2c) at the end portions.

27. (Currently Amended) A system according to claim 26, characterized in that the interaction element (3) penetrates the inside of the guiding and adjusting element (2a) axially.

28. (Currently Amended) A method of adjusting the temperature set point of a cooling system and measuring the temperature of an environment ( $T_s$ ), characterized by comprising the steps of:

- applying a known sampling voltage ( $V_p$ ) to a known value resistor in series with the a set of turns (2);
- measuring the voltage obtained on the set of turns after a first measurement time ( $t_1$ ) and a second measurement time ( $t_2$ ); and
- determining the resistance ( $R_s$ ) and the variable inductance ( $L_s$ ) of the set of turns (2) from the voltage measurements made at the first and second measurement times ( $t_1$ ,  $t_2$ ) previously determined, and respectively obtaining the value of the temperature of the environment ( $T_s$ ) from the resistance ( $R_s$ ) and defining the temperature set point of the cooling system from the inductance ( $L_s$ ) of the set of turns (2).

29. (Currently Amended) A method according to claim 28, characterized in that the step of determining the resistance ( $R_s$ ) and the variable inductance ( $L_s$ ), ~~such measurements are~~ is carried out by a processing unit ~~(20)~~.

30. (Currently Amended) A method according to claim 29, characterized in that the step of obtaining the variable inductance ( $L_s$ ) of the set of turns ~~(2)~~ is carried out after passage of the first measurement time ( $t_1$ ) previously determined.

31. (Currently Amended) A method according to claim 29, characterized in that the step of obtaining the resistance ( $R_s$ ) of the set of turns ~~(2)~~ is carried out after passage of the second measurement time ( $t_2$ ) previously determined.

32. (Currently Amended) A method according to claim 29, characterized in that, in the step of detecting the resistance value ( $R_s$ ), a value of a temperature of the environment ( $T_s$ ) is obtained and that, in the step of detecting the value of the variable inductance ( $L_s$ ), the adjustment of the temperature set point is foreseen.